ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 260, 261, 264, 265, and 266

[SWH-FRL 2703-7]

Hazardous Waste Management System; Definition of Solid Waste

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: On April 4, 1983, EPA proposed to amend its existing definition of solid waste used in regulations implementing Subtitle C of the Resource Conservation and Recovery Act (RCRA). Most of the proposal dealt with the question of which materials are solid and hazardous wastes when they are recycled. The Agency also proposed general and specific standards for various types of hazardous waste recycling activities.

We are finalizing much of the rule as proposed, but have made a number of changes and clarifications. The effect of the rule is to clarify the extent of EPA's jurisdiction over hazardous waste recycling activities and to set forth the regulatory regime for recycling activities subject to the Agency's jurisdiction.

DATES: *Effective Dates:* These rules with exceptions noted below, become effective on July 5, 1985. Sections 261.1(b), 261.2(e), and Part 266 Subpart F (rules for which the regulated community does not need time to come into compliance) are effective December 20, 1984.

Compliance Dates: All persons who generate, transport, treat, store, or dispose of wastes which are covered by today's regulation must notify EPA or a State authorized by EPA to operate the hazardous waste program of their activities under Section 3010 of RCRA no later than April 4, 1985 unless these persons previously have notified EPA or an authorized State that they generate, transport, treat, store, or dispose of hazardous wastes and have received an identification number. Notification instructions are set forth in 45 FR 12746, February 26, 1980.[1]

All existing hazardous waste management facilities which treat, store, or dispose of hazardous waste covered by today's rule and which qualify to manage these wastes under interim status under section 3005(e) of RCRA must file with EPA or a State authorized by EPA to operate the hazardous waste program to notification by April 4, 1985, and a Part A permit application by July 5, 1985. Under the Solid and Hazardous Waste Act Amendments of 1984, a facility is eligible for interim status if they were either in existence on November 19, 1980 or were in existence on the effective date of any statutory or regulatory change under RCRA that requires them to obtain a section 3005 permit. See RCRA amended section 3005(e). Facilities which have qualified for interim status will not be allowed to manage the wastes covered by today's rule after July 5, 1985, unless: (1) They file a notification with EPA or an authorized State by April 4, 1985, and (2) they submit an amended Part A permit application with EPA or an authorized State by July 5, 1985 (see 40 CFR 270.10(g)).

ADDRESSES: The official record for this rulemaking is located in Room S-212A, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460 and is available for viewing from 9:00 a.m. to 4:00 p.m., Monday through Friday, excluding holidays.

FOR FURTHER INFORMATION CONTACT: RCRA Hotline, toll free, at (800) 424-9346 or at (202) 382-3000. For technical information, contact Matthew A. Straus, Office of Solid Waste (WH-562B), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460 (202) 475-6551.

[1] Under the Solid Waste Disposal Amendments of 1980 (Pub. L. 96-482 (October 21, 1980)), EPA was given the option of waiving the notification requirement under section 3010 of RCRA, following revision of the section 3001 regulations, at the discretion of the Administrator.

SUPPLEMENTARY INFORMATION: Under Subtitle C of RCRA, EPA is granted the authority to regulate hazardous wastes. Hazardous wastes, however, are defined in the statute as a subset of "solid waste." (See Sections 1004(5) and 1004(27).) It thus is necessary to define what a solid waste is in order to determine jurisdiction under Subtitle C.

On April 4, 1983, EPA proposed to amend the existing regulatory definition of solid waste. See 48 FR 14472. The proposal defined which materials were solid wastes when disposed of, burned, incinerated, or recycled. The greater part of the proposal dealt with the question of which materials are solid wastes when recycled—the area where the extent of the Agency's authority is not explicit on the face of the statute. EPA also proposed regulatory standards for various types of hazardous waste recycling activities, with the standards varying according to the type of activity.

EPA received well over one hundred comments on the proposed rule, including comments from states, waste generators, waste recyclers, environmental groups, and members of the public. The Agency also held three public hearings on the proposal, at which we received additional comments. Virtually all commenters agreed that the proposed rule was a substantial improvement over the existing regulations because it replaced the "sometimes discarded" feature of the existing definition.[1] The majority of the commenters also supported the proposal (or at least key parts of it). Many commenters, however, expressed concern that the proposed rules were very complicated. Other criticisms were substantive. Some waste generators challenged the Agency's classification of certain recycling activities as waste management, or even reiterated a challenge to EPA's authority under Subtitle C of RCRA to regulate recycled materials as solid wastes. Commercial recyclers were divided in their reaction, with commercial chemical waste recyclers (who would generally be regulated more comprehensively under the proposal than under the existing rules) being generally favorable, while recyclers of metal-containing waste were generally opposed.

Reaction from states also was divided. (There were fourteen comments from state or government agencies. The State of Nebraska also conducted an informal survey of 25 states for their reactions to the proposed rules. Some of the survey respondents were among the direct commenters to the Agency.) Although there were favorable comments, some state officials expressed concern with some of the

[1] 40 CFR 261.2(b) (2) and (3) indicate that spent materials and by-products that sometimes are discarded are solid wastes. This standard applies to all materials of a given type and so charges generators with knowledge of what other generators do with the same material.

subsequently used as feedstock. This situation is a subset of the one just described, so that these materials are wastes until reclaimed. Their later use as feedstock does not alter this result. The Agency acknowledges, however, that its discussion of the recycling of spent sulfuric acid in the proposal preamble (footnote 30) created some confusion. The Agency still does not think this process involves reclamation. To eliminate any uncertainty, however, we are amending § 261.4(a) of the regulations to state that spent sulfuric acid that is recycled to produce virgin sulfuric acid is not considered to be a solid waste. (See Section I. below.)

2. *The Status of Reclaimed Products.* The Agency proposed a clarifying amendment to § 261.3(c)(2) (the "derived from" rule) to indicate that commercial products reclaimed from hazardous wastes are products, not wastes, and so are not subject to the RCRA Subtitle C regulations. See 48 FR 11489. Thus, regenerated solvents are not wastes. Similarly, reclaimed metals that are suitable for direct use, or that only have to be refined to be usable are products, not wastes. This amendment states a fairly evident principle, and was not challenged by any commenter.

We caution, though, as we did in the proposal, that this principle does not apply to reclaimed materials that are not ordinarily considered to be commercial products, such as waste-waters or stabilized wastes. The provision also does not apply when the output of the reclamation process is burned for energy recovery or placed on the land. These activities are controlled by the provisions of the definition dealing with using hazardous wastes as ingredients in fuels or land-applied products. For instance, if a spent solvent is treated and blended with oil to sell as a fuel, that waste-derived fuel is still subject to RCRA jurisdiction.

The principle also does not apply to wastes that have been processed minimally, or to materials that have been partially reclaimed but must be reclaimed further before recovery is completed. (See 48 FR at 14499 n. 57.) For this last situation—where materials are partially reclaimed but must be reclaimed further until recovery is completed—we are providing a variance procedure for situations in which the initially reclaimed material is commodity-like in spite of the need for additional processing before it is finally reclaimed. This variance is explained fully in Section J.2. of Part 3 of the preamble below.[21]

F. Section 261.2(c)(4): Wastes That Are Accumulated Speculatively

1. *Grouping of Speculative Accumulation and Overaccumulation Provisions.* EPA proposed that any secondary material (*i.e.*, spent materials, sludges, or by-products) being accumulated speculatively were solid wastes. We said these materials are "accumulated speculatively" when they are being stored with a legitimate expectation of eventual recycling but have never been recycled, or cannot feasibly be recycled. See 48 FR 14489.

The Agency further proposed that secondary materials that accumulate at a site for over a year without 75 percent being recycled are solid wastes. 48 FR 14490. The sense of this provision was that all secondary materials that overaccumulate before being recycled are solid wastes, even if they are going to be recycled in ways that ordinarily do not constitute waste management.

We have combined these concepts in a single provision in the final definition. We have drafted the provision so that secondary materials are considered to be solid wastes if they are accumulating before being recycled. However, the materials will not be considered solid wastes (under this provision of the definition) if the person accumulating can show, on request, that: a) the materials have known recycling potential and can feasibly be recycled, and b) during a one-year calendar period that the amount of material recycled, or transferred to a different site for recycling, is at least 75 percent of the amount accumulated at the beginning of the year.[22]

We think that drafting the provision in this way most accurately reflects Congressional intent that accumulated hazardous secondary materials are ordinarily to be regarded as solid and hazardous wastes. Congress believed that hazardous wastes are rarely, if ever, recycled or amenable for recycling. H.R. Rep. No. 94-1491, at 4. It mandated a "regulatory framework" to en[illegible]hat "hazardous wastes (are not) disp[illegible]d of in ponds or lagoons or on the ground in a manner that results in substantial and sometimes irreversible pollution of the environment." (*Id.*) This mandated "regulatory approach" would "eliminat[e] the last remaining loophole in environmental law . . ." (*Id.*)

Although accumulating hazardous secondary materials are ordinarily regarded as solid and hazardous wastes, this is not invariably the case. As noted earlier in the preamble (see Section II.B. of Part 1 and Section H of Part 2), these materials would not be wastes if they can be recycled in certain designated ways, and if they are not accumulated speculatively before being recycled. These situations represent exceptions to the general statutory prohibition against unregulated waste management.

The final rule thus states the general principle that hazardous secondary materials accumulating before recycling are wastes unless the person accumulating is able to show on request that he is indeed recycling sufficient volumes of the materials on an annual basis. The provision is not substantively different from the proposed rule on overaccumulation; the drafting indicates explicitly, however, that this is an exception to the general statutory principle. Thus, the burden of showing that sufficient amounts are being recycled is on the person accumulating the material. (See Section J. of this part of the preamble.)

2. *§ 261.2(c)(4)(A): Wastes That Are Accumulating With Expectation of Recycling But Which Have Not Been Recycled.* We are adopting in the final rule the proposed provision that all materials stored with a legitimate expectation of eventually being recycled but for which there is no known recycling market or disposition, or no feasible means of recycling, are wastes. These wastes are subject immediately to all applicable RCRA Subtitle C standards. Ordinarily, these are storage standards for the applicable type of storage facility. (See 48 FR 14499/2.) Materials that are known to be recyclable, such as solvents, scrap metal, used oil, or most smelting drosses, slags, and sludges ordinarily would not be subject to this provision.

A person accumulating hazardous secondary materials would have the burden of proving that there is a feasible means of recycling the material. (See Section J. below.) This ordinarily will require identification of actual recyc' and recycling technology, location o. recycler, and relative costs associated with recycling. For example, if the

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[21] One commenter questioned whether recirculated industrial cooling water was considered to be reclaimed. Ordinarily, we consider cooling water (contact or non-contact) to be reused directly when it is recirculated. Cooling water is not ordinarily processed or treated to remove impurities before recirculation, but is routed away from the process (often through a cooling tower) to lose enough heat to be reusable. The Agency does not consider cooling water routed in this way to be reclaimed.

[22] Of course, the materials could still be solid and hazardous wastes depending on how they are recycled. For example, they would be wastes if they are to be recycled by being burned to recover energy.

nearest recycler is 500 miles away, the person accumulating the hazardous secondary material would have to show that it is economically reasonable to send his material that far to be recycled. The most convincing demonstration clearly would be that the hazardous secondary material actually has been recycled.

Most comments supported the proposal. Two commenters, however, suggested that material for which generators could demonstrate that ongoing developmental work will lead to recycling at a future date should not be considered to be accumulated speculatively. We disagree. We think that materials that are not known to be recyclable (or not feasibly recyclable in the hands of a particular generator) are wastes immediately. The example in the preamble to the proposed rule of a waste accumulating over eight years while the generator endeavored to find a means to recycle it indicates that conducting research into recycling possibilities is much different than being able to recycle a waste. In addition, the Agency is not equipped to evaluate whether an unproven developmental plan will ultimately prove feasible.

3. *Section 261.2(c)(4)(B): Wastes Accumulating Before Recycling That Are Not Recycled In Sufficient Amounts. a. The Proposed Provision.* EPA proposed that secondary materials not already defined as wastes that accumulated at a site for over a year without 75 percent being recycled, or transferred to a different site for recycling, are solid wastes. (The materials must, of course, have a know potential for recycling, or they will be considered to be wastes immediately.) EPA also proposed that certain wastes which were exempt when recycled would no longer be exempt if insufficient amounts were recycled in a year.

We coupled this provision with an exception allowing persons who failed to recycle 75 percent in a given year to petition the Regional Administrator (or authorized state having this provision) to demonstrate that they could recycle sufficient amounts in the subsequent year. If the petition was granted the accumulated material was not a waste, or remained exempt from regulation. Once the material accumulated for over a year without sufficient turnover, however, it became a waste or lost its exemption from regulation unless the Regional Administrator (or authorized State) were to decide otherwise.

b. The Final Regulation. We are promulgating this provision essentially as proposed. We continue to believe that the length of time secondary materials are accumulated before being recycled is an important indicator of whether or not they are wastes (or, in the case of precious metal wastes, whether they should be subject to regulation). This is borne out by the large number of recycling damage cases where secondary materials that were overaccumulated over time caused extensive harm. Commenters likewise, stated that raw materials usually are processed through production processes in a continual manner and therefore that the length of time a secondary material accumulates before recycling is relevant in determining whether the material is a waste. The Agency also believes, and many commenters agreed, that the one-year period and 75 percent turnover figure were within the reasonable range of values the Agency could select. We are promulgating this provision essentially as proposed.

As just discussed, the major change in the provision involves the structuring of the regulation to indicate that secondary materials stored before recycling are wastes unless the person accumulating the waste is able to show that they are being recycled at an annual rate of 75 percent or more. By requiring persons accumulating the materials to be able to show that they are recycling sufficient amounts, we mean that they have the burden of proof on this issue. We are not requiring specific reports to be submitted to the Agency, nor that particular records be maintained. (See Section d. below discussing the type of records that would satisfy the burden of proof.)

As at proposal, this provision applies to all spent materials, sludges, and by-products not already defined as solid and hazardous wastes and that are accumulated before any type of recycling. The provision thus applies to secondary materials not otherwise considered to be wastes when recycled—namely, to materials that are to be used as ingredients or as commerical product substitutes, to materials that are recycled in a closed-loop production process, to unlisted sludges and by-products that are to be reclaimed, and to black liquor and spent sulfuric acid being reclaimed. Thus, if one of these materials are overaccumulated, they would be considered to be hazardous wastes and would become subject to regulation under applicable provisions of § 261.6, normally § 261.6 (b) and (c) (see Section II.I. of Part 3 of the preamble).

The provision also continues to apply to one set of wastes which are ordinarily exempt from most regulation when recycled, precious metal wastes being reclaimed. Thus, if these wastes are overaccumulated, they no longer are conditionally exempt from regulation (see § 266.70(d)).

The provision does *not* apply to secondary materials that already are wastes when they are recycled, for example scrap metal, secondary materials burned as fuels, or spent lead-acid batteries being reclaimed. The regulations in § 261.6 and Part 266 must be consulted to determine if these wastes are regulated. Rate of turnover thus is not a factor in determining the extent of regulation for these wastes.

In response to comment, we are adding that the provision also does not apply to materials generated in a manufacturing process unit or associated non-waste-treatment manufacturing unit covered by § 261.4(c). Including materials that are generated in these units in the calculation would be inconsistent with the reasons EPA initially exempted wastes accumulated in these types of units. See 45 FR 72025 (October 30, 1980).[*]

EPA proposed that the 75% turnover rate be calculated based on volume. In response to comment, we are writing the final rule so that rate of turnover can be calculated based on either weight or volume. Either measure appears to be a reasonable way to calculate turnover.

We are making one other change to the proposed rule by requiring that 75% of the accumulated materials be recycled during the *calendar* year, starting on January 1, 1985. The proposal would have allowed the person accumulating to choose among the calendar, fiscal, and inventory years as the period during which 75% turnover must be achieved. On reflection, we think that a single time period is needed to facilitate enforcement and to achieve uniformity. EPA believes that if enforcement officials are confronted with a differing starting date at each facility, this provision would become too difficult to implement.

c. The Requirement That Materials of The Same Class Being Recycled The Same Way Be Counted Together. In the proposal, we left open the question of whether the overaccumulation provision applies on a material-by-material basis or on a basis that takes into account both the material being recycled and the

[*] Although the final rule refers to § 261.4(c)—a provision that exempts wastes from regulation—EPA is *not* stating that the materials in these units are wastes. EPA is stating that the secondary materials not otherwise defined as solid wastes that are accumulating in the product storage tanks or other vessels described in § 261.4(c) are not subject to the turnover provision contained in the speculative accumulation rule.

manner of recycling. We indicated that our preference was for the 75 percent recycling requirement to be applied to all materials of the same class which were to be recycled in the same way. Most commenters agreed, as this kind of accounting best assures that similarly situated materials will be grouped in the same way.

We are adopting this standard in the final rule. We wish to clarify precisely what this standard means, however. By "materials of the same class" we mean materials of the same type generated from the same process. Examples of materials that would be grouped are distillation bottoms from integrated production of chlorinated aliphatic hydrocarbons, slags from a smelting process, drosses from a smelting process, dry sludges from the same process, or wastewater treatment sludges from the same process.

The requirement that the materials be "recycled in the same way" means that materials are either to be used to make the same thing (for materials to be used as ingredients), used in the same way (for materials used as effective substitutes for commercial products), or, for unlisted by-products and sludges, that the same material be recovered from them. Thus, still bottoms used as intermediates to make the same products would be counted together—for example, all still bottoms from chlorinated aliphatic hydrocarbon production that are used to make carbon tetrachloride. On the other hand, still bottoms used as intermediates in the production of ethylene dichloride would be counted separately. All of a generator's spent pickle liquor used as a wastewater sludge conditioner would be aggregated; the same generator's pickle liquor used to produce iron oxide would be counted separately. Smelting drosses from which lead is recovered would be counted separately from smelting drosses from which zinc is recovered.

The Agency is adopting this approach to ensure that materials most alike in terms of physical characteristics and mode of recycling are counted together. EPA also believes this approach safeguards against situations where recyclable materials are counted along with unrecyclable ones, shielding the unrecyclable materials from being wastes. For instance, if a generator has 100 units of a secondary material all of which are recycled as ingredients in a process, and 20 units of the same material only one unit of which is recycled in a different process, the remaining 19 units should be classified as wastes because they aren't being recycled.

d. *Means of Satisfying the Burden of Proof.* As noted, persons accumulating secondary materials not otherwise defined as wastes have the burden of proving that they are recycling sufficient amounts of the secondary materials. At a minimum, we would expect that accumulators have on hand (1) the amount of secondary material of each class recycled in the same way on-hand at the beginning of the one-year period, (2) the amount of such material added during the one-year period, and (3) the amount remaining at the end of the one-year period. Records customarily maintained, such as records of throughput through an industrial process, should be satisfactory. For materials used as intermediates in closed-loop processes, records of consistent historical use should be sufficient. In addition, names and addresses of recyclers receiving the secondary materials should be maintained, as well as any other information that substantiates the minimum turnover rate (*e.g.* contracts or correspondence with a recycler).

e. *Response to Comments:* Although commenters expressed concern about the provision's complexity, most supported it in principle. One commenter, while supporting most of the overaccumulation provision, urged that it not apply to unlisted by-products accumulated in tanks and containers for a generator's own use or reuse. We have considered this comment but are rejecting it for the reasons given in the proposal (48 FR 14491/1). As a general matter, we believe the key measure of whether a material is overaccumulated is the length of time before use occurs, not how the material is stored or who will recycle it. In addition, the commenter was most concerned about accounting for unlisted by-products burned as fuels; since these materials are defined as wastes in the final rule (although they are not at this time subject to storage requirements), this question is of less importance.

There were a series of comments regarding the status of commercial chemical products that accumulate over time without being used. EPA indicated in the proposed rule that commercial chemical products that are hazardous wastes when discarded (*i.e.*, those listed in § 261.33 of the regulations) were not subject to either the speculative accumulation or overaccumulation provisions of the proposed rule. 48 FR 14489. We also asked for comments as to whether some type of maximum accumulation period should be imposed by rule. Virtually all commenters opposed this idea, due to the large recordkeeping requirements involved, and the difficult practical problems involved in observing and enforcing such a standard. The Agency shares these concerns. *Id.* at 14490. We therefore are not adopting any time limit on when a commercial chemical product held for recycling becomes a waste. The May 19, 1980 standard remains in place: these materials are wastes when discarded or intended for discard (by means of abandonment), and are not wastes when stored for recycling.

f. *Variances for Secondary Materials Not Recycled in Sufficient Volumes.* We also believe that there may be valid reasons that persons are unable to recycle sufficient amounts of non-waste secondary materials in one year (or the precious metal wastes that are conditionally exempt form regulation) and have retained the petition process to accommodate these situations. The petition is now termed a variance from being a solid waste, and is found in § 260.30 Substantive standards for the Regional Administrator's (or authorized state official's) decision are in § 260.31 (a) and procedures for applying for and processing variances are in § 260.33.

The standards for granting a variance are basically those we proposed. The Regional Administrator must decide if sufficient amounts of material are likely to be recycled or transferred for recycling in the following year. Factors to be considered are: (a) The kind of material being accumulated and its expected manner of recycling, (b) how much is being stored, (c) how it is being stored, (d) whether it is being stored in a way that minimizes loss, (e) how and when it is expected to be recycled, and (f) why this is a reasonable expectation. The Regional Administrator should consider the applicant's past history of recycling the material, whether there are contractual arrangements or market conditions bearing on the likelihood of future recycling, the reason that the material was accumulated without 75 percent being recycled in the past year, and other relevant factors. If, for example, a company has a multi-year history of selling a secondary material as a commercial product substitute, but was unable to sell 75 percent during a given year due to a temporary downturn in market conditions, and is handling the secondary material in a manner commensurate with its value as a substitute commercial product, the company may be eligible for a variance. On the other hand, a company that overaccumulates a secondary material not ordinarily reused, but that has able to pay other companies to use material in the past, and now has tons of

material on hand in open piles, is much less likely to be eligible for a variance.

A variance, if granted, would be valid for only one year. If the accumulator failed to recycle 75 percent of the material on hand in the following year, it would have to petition for a new variance. Under the proposal, the company would have had to recycle 50 percent of the total accumulated materials to be eligible to apply for a second variance. In addition, a variance could only be renewed two times. In response to comments, we are not adopting either of these requirements in the final rule. There do appear to be situations, although infrequent, where secondary materials can accumulate for over two years without being recycled and still not necessarily be deemed a waste. Possible examples are certain traditionally reclaimed mining by-products that are being accumulated because of cyclically depressed metal prices. However, in determining whether to grant a variance, the longer a material has accumulated without recycling, the more likely it is that the variance application will be denied.

G. Section 261.2(d): Secondary Materials That are Designated as Solid Wastes

1. *The General Standard.* EPA proposed that particular inherently waste-like materials could be designated as solid wastes without regard for the mode of recycling. Some comments criticized this provision as being a vague catch-all, while others supported it or (in the case of certain industry commenters) conceded the need for this type of provision.

EPA is retaining this listing authority in the final regulation. A provision of this type is needed because it is impossible in practice to devise a single definition which completely distinguishes wastes from non-wastes. We continue to think that certain residual materials are inherently waste-like, either because: (a) They are typically disposed of or incinerated on an industry-wide basis, or (b) they contain toxic constituents [36] in concentrations not ordinarily found in the raw materials or products for which they substitute, which toxic constituents are not used, reused, or reclaimed during the recycling process. In addition, recycling of the materials must have the potential to pose a substantial hazard to human health and the environment. The Agency believes these criteria are relatively straightforward and understandable. Certainly they are not "vague" in any legal sense. The Agency will be required to designate in the rule that particular materials are wastes so that there is no risk that those subject to regulation are uncertain of their obligations.

The criticism that this provision is a "catch-all" also does not appear to have merit. We believe the criteria limits those materials the Agency could designate. The Agency must determine that the materials ordinarily are not recycled on a nation-wide basis, and that the material contains Appendix VIII constituents at levels not found in analogous raw materials or products. The criteria that the recycling activity potentially pose a substantial hazard also limits the Agency, by suggesting that a purpose of the activity is to dispose of the non-recycled toxic constituents, and by suggesting that the secondary materials have so little value that they are stored insecurely, and are thus waste-like.[37]

One commenter suggested that the Agency designate secondary materials as solid wastes if management of the materials presents an "unreasonable risk of injury to health or the environment." This determination would be based on an assessment taking into account such factors as effects of the material on human health and the environment, benefits of using the material, and economic consequences of listing.

This standard, as the commenter admits, is drawn essentially from the Toxic Substances Control Act. This is not the standard Congress enacted for RCRA decisionmaking. RCRA determinations are to be based on health and environmental based factors. (See 45 FR 33099 (May 19, 1980).)

The consequences of being designated as a solid waste is that the material will be within the Agency's jurisdiction no matter how it is being recycled. Thus, the particular dioxin-containing wastes designated in today's regulation (see the following subsection) are considered to be wastes (for example) even if used directly as substitutes for commercial products or as ingredients in producing a product. On the other hand, § 261.6 must be consulted to determine the type of regulation that applies to the waste.

2. *Application of the Standard to Specific Wastes:* EPA proposed to designate a group of dioxin-containing materials as solid wastes. See 48 FR 14491–492. We are modifying the proposal, in response to comments, to exclude the listed commercial chemical formulations (Hazardous Waste FO27). These formulations do not meet the designation criteria because they are not chemically dissimilar from analogous commercial products (*i.e.* they are virtually the same as pesticides that are used), and they are not typically discarded. In determining if these formulations are wastes when disposed or recycled, the regulated community should refer to the rules applicable to commercial chemical products. The formulations thus would be wastes when they are discarded by being abandoned, or when they are burned for energy recovery (the manner of recycling not analogous to normal use). See § 261.33 as amended by today's rule.

We also are indicating that Hazardous Waste F021 is not designated as a solid waste if it is used as an ingredient to make a product at the site of generation. It is a solid waste if recycled in any other way (or if disposed.) The Agency is taking this step in response to comments indicating that pentachlorophenol production plants typically reuse these materials in their own production process.

H. Section 261.2(e): Secondary Materials That Are Not Solid Wastes When Recycled

1. *Secondary Materials Used as Ingredients to Make New Products, or Used as Substitutes for Commercial Products.* a. *The Agency's Subtitle C Jurisdiction.* EPA proposed that secondary materials that are used as ingredients to make new products were not solid wastes provided that distinct components were not recovered (*i.e.* reclaimed) as end products. We also proposed that secondary materials used as substitutes for commercial products in particular functions or applications are not solid wastes. See 48 FR 14477, 14487–88. An example of the former practice—*i.e.*, use as an ingredient—is the use of chemical industry still bottoms as feedstock. Use of hydrofluorosilicic acid (an air emission control dust) as a drinking water fluoridating agent, or use of spent pickle liquor as a wastewater conditioner, are examples of use of a secondary material as a commercial product substitute.

When secondary materials are directly used (or, in the case of previously used materials, reused) in these ways, we stated, they function as raw materials in normal manufacturing operations or as products in normal commercial applications. We reiterate these positions in the final regulation. These direct use recycling situations

[36] These are toxic constituents listed in Appendix VIII of Part 261. The proposal erroneously referred to "Appendix VII" (48 FR at 14491), due to a misprint by the Federal Register.

[37] We thus disagree with the commenter who argued that a hazard posed by recycling a material is not relevant in determining whether the material is a waste.

conditions such as loss of a set of black liquor evaporators or loss of a recovery furnace. When this occurs, the black liquor in the impoundment is accumulated in excess of what can be accommodated at the facility and so may not be recycled, or not be recycled for a long time.

In light of these uncertainties, the Agency is investigating further whether black liquor stored in an impoundment before recycling in the Kraft process is a waste. In addition, we note that black liquor that is disposed of and not recycled is a waste, and if hazardous, a hazardous waste. This includes black liquor that leaks, leaches, or overflows from an impoundment and is not recycled. Furthermore, the final rule states that black liquor stored before recycling remains subject to the rules on speculative accumulation. Thus, paper mills accumulating black liquor must show that they are recycling 75% of the amount on hand at the beginning of a one-year period.

In summary, today's final rule states that:

- Black liquor accumulating before recycle to the Kraft paper process is not a Subtitle C solid waste. At least for the present time, this exclusion includes black liquor that is stored in a surface impoundment before recycling. The person accumulating must show that the black liquor is not being accumulated speculatively, or the black liquor will be considered to be a waste;

Black liquor that is recycled in some other manner could be a waste and black liquor that is disposed of is a waste.

2. *§ 261.4(a)(7): Spent Sulfuric Acid Used to Produce Virgin Sulfuric Acid.* Spent sulfuric acid is frequently used as a feedstock in the production of virgin sulfuric acid. It is normally reintroduced into the original sulfuric acid production process where sulfur values are recovered and absorbed into existing sulfuric acid. 45 FR 14487 n.30. Under the proposal, spent sulfuric acid recycled in this way was not considered to be a solid waste because it was used as an ingredient, used in a primary process, and was burned in an industrial furnace. See 48 FR 14483, 14487 n.30, 14488 n.31.

As discussed earlier (see Section E. above), some commenters questioned the regulatory status of spent materials that are reclaimed and then used as feedstocks. We indicated that normally the spent material would be considered to be a solid waste until it was reclaimed. However, we agree that our discussion of spent sulfuric acid at proposal (in footnote 30) created some confusion.

To eliminate any confusion, we are promulgating a specific exclusion stating that spent sulfuric acid recycled in this way is not a solid waste. As we explained at proposal, the spent sulfuric acid recycling process more closely resembles a manufacturing operation than a reclamation process. In addition, the operation is well established, and accounts for approximately 9% (in 1982) of the roughly 33 million tons of sulfuric acid produced annually. At least one state (California) has indicated by statute that spent sulfuric acid returned to the sulfuric acid production process is not a solid waste. EPA is therefore declaring explicitly that spent sulfuric acid returned to a sulfuric acid production process is not a solid waste. The acid is a hazardous waste if disposed (assuming it is corrosive or exhibits other hazardous waste characteristics), and could be a hazardous waste if recycled in some other manner (such as burning for energy recovery).

J. § 261.2(f): Burden of Proof in Enforcement Actions

EPA proposed that if respondents in enforcement actions raised a claim that a particular secondary material was not a solid waste (or was conditionally exempt from regulation) because it was recycled in a particular manner then they had the burden of proof to show that they were indeed recycling in that way. (Proposed § 261.2(d) and 48 FR 14492.) We are adopting this provision in the final regulation.

As discussed earlier in Section F, RCRA creates a broad remedial scheme to ensure that hazardous wastes are managed safely from cradle-to-grave. The regulatory framework envisaged for this problem extends to hazardous wastes being recycled, and normally includes any hazardous secondary material that is being recycled or that is accumulated with expectation of recycling.

Certain exceptions to this remedial scheme to exist. We think it appropriate, and the rule states explicitly, that the burden of proof (in the sense of both the burden of producing evidence and the burden of persuasion) is on the persons claiming that their hazardous secondary material is not a waste because it is within the terms of any of these exceptions. This provision, thus, restates the legal principle that parties claiming the benefits of an exception to a broad remedial statutory or regulatory scheme have the burden of proof to show that they fit the terms of the exception. *See, e.g. SEC* v. *Ralston Purina Co.*, 346 U.S. 119, 126 (1953) (exception to Securities Act registration requirements); *U.S.* v. *First City National Bank of Houston*, 386 U.S. 361, 366 (1967) (exception to merger provisions of Clayton Act); *Arnold* v. *Ben Knowsky, Inc.*, 361 U.S. 388, 393 (1960) (exception to Fair Labor Standards Act for retail sales); *Weyerhauser, Inc.* v. *Costle*, 590 F.2d 1011, 1040 (D.C. Cir. 1978) (burden of proof is on applicant for Agency-created fundamentally different factors variance).

Viewed another way, the regulations presume that hazardous secondary materials stored before recycling are hazardous wastes. The person accumulating can prove, however, that the materials are not wastes due to the manner of recycling (including the amount of material being recycled). These facts are within the special knowledge of the person accumulating the material. Presumptions of this type have been upheld consistently when they further interpret a remedial statutory purpose, guard against harm to public health and safety, and where the facts to rebut the inference are particularly within the knowledge of the other party. *See Beth Israel Hospital* v. *NLRB*, 437 U.S. 482, 493, 502 (1978); *U.S.* v. *General Motors Corp.*, 561 F.2d 923, 924 (D.C. Cir. 1977) (Leventhal J. dissenting in part).

Furthermore, this type of claim is an affirmative defense, for which it is appropriate that the person asserting the defense have the burden of proof. In addition, the facts underlying the recycling defense would be peculiarly within the knowledge of the party asserting the defense, a situation as noted above where it is appropriate for that party to have the burden of proving the issue. We thus disagree with those commenters claiming that the Agency lacked authority, or was ill-advised, to allocate a burden of proof in this regulation. Indeed, the Agency has allocated burdens of proof to respondents in other regulations that create an affirmative defense or an exception to a generally applicable principle. See § 122.42(n)(4) (permittee has burden of proof to establish the affirmative defense of upset); § 124.5 (National Pollutant Discharge Elimination System permit applicant has burden of persuasion that a permit authorizing a discharge of pollutants should be issued). This allocation of the burden of proof was affirmed in *American Petroleum Institute* v. *EPA*, 661 F.2d 340, 352, 354 (5th Cir. 1981).

There is no formal recordkeeping requirement in the regulation. How persons must keep whatever records other means of substantiating their claims that they are not managing a

solid waste because of the way the material is to be recycled.[23] They also must show that they are not overaccumulating their secondary materials. See Section F.3. above. In addition, owners or operators of facilities claiming that they are engaged in recycling must show that they have the necessary equipment to do so.

Part III: Standards for Managing Hazardous Wastes That are Recycled

I. An Overview of the Final Regulations

Section 261.6 of the final regulation contains the regulatory requirements for hazardous wastes that are recycled. The final rule contains many of the provisions that were proposed, but also eliminates all but one of the proposed conditional exemptions. The other major change from the proposal is that we are adopting standards and procedures for certain variances.

A. Outline of the Final Regulations

As in the proposal (and as under current regulations), hazardous wastes to be recycled—called "recyclable materials" in the regulation—are ordinarily subject to regulation under Parts 262 and 263 of the regulations (when generated and transported) and to the storage facility requirements in Parts 264 and 265 (when stored before recycling). We usually do not regulate the recycling process itself, except when the recycling is analogous to land disposal or incineration. (See 45 FR 33092–093 (May 19, 1980); see also H.R. Rep. 98–198, *supra*, at 46 indicating that uses constituting disposal and burning for energy recovery are to be regulated.) In addition, certain recyclable materials and certain types of recycling are subject to regulatory standards that are not completely identical to those contained in Parts 262 through 265 and Parts 270 and 124. The regulatory standards for these types of recycling activities are contained in various subparts of Part 266. Section 261.6(a)(2) serves as a cross reference, listing those recyclable materials and recycling activities subject to special standards. We are adopting Part 266 standards for the following recycling activities or recyclable materials:

- uses constituting disposal;
- burning for energy recovery in boilers and industrial furnaces and using recyclable materials to produce a fuel;
- recyclable material from which precious metal are to be recovered;
- spent lead-acid batteries being reclaimed.

Used oil that is to be recycled will eventually be regulated under Part 266 but presently is exempt from regulation during the time it takes to develop standards consistent with the requirements of the Used Oil Recycling Act and the HSWA (see 48 FR 14496).

We also are exempting permanently two types of recyclable materials—industrial ethyl alcohol to be reclaimed, and used batteries or cells returned to a battery manufacturer for regeneration—from all Subtitle C regulation. These exemptions are found in § 261.6(a)(3).

Scrap metal (that is hazardous) and that is to be recycled is also exempt for the present time while the Agency investigates further whether there is a need for regulation and what an appropriate regulatory regime might be if regulation is necessary.

Finally, we have added variances from § 261.6 or Part 266 (as well as § 261.2) for certain types of recyclable materials and recycling activities. These variances—to be implemented at the Regional or State level—can result in increased regulation, or (for materials determined not to be solid wastes) no regulation. Standards for granting or denying variances are found in §§ 260.31 and 260.32 (variance from being a solid waste), and 260.40 (additional regulation of generators or storage facilities). Procedures for implementing these variances are found in new §§ 260.33 and 260.41.

B. Elimination of Conditional Exemptions

EPA proposed that four types of reclamation activities be conditionally exempt from regulation: (1) A single person reclaiming his own hazardous wastes; (2) a single person reclaiming another's hazardous wastes for his own use; (3) batch tolling reclamation arrangements; and (4) precious metal reclamation. With the exception of precious metal reclamation, we are not adopting these exemptions in the final rule. (We are also soliciting comment as to whether batch tolling reclamation procedures should be eligible for a variance.) As stated in Part I of the preamble, we have concluded that there is danger of substantial harm from leaks and spills if these activities are not regulated. We are supported in this conclusion by comments of states, hazardous waste management organizations, environmental groups, and the Congressional Office of Technology Assessment.

We have also concluded that all of the Part 264/265 standards should apply to those recycling situations that are not conditionally exempt. We considered whether it was possible to develop tailored standards for these facilities, leaving out those regulatory standards which guard solely against the risk of overaccumulation (a risk unlikely to be present; see 48 FR 14477) and retaining those standards which guard against risk of spills or leaks.

This type of tailoring proved impossible. Design and containment standards for containers, tanks, and piles are necessary to protect against leaks and spills, and were indeed devised largely to prevent these risks. Closure and financial responsibility requirements, which do guard against overaccumulation, also provide protection should leaks or spills occur. Thus, facility owners and operators must ensure that contamination that has occurred during operation of the facility, such as by spills or leaks, will be controlled, minimized, or eliminated so that post-closure escape of contaminants will not occur. See § 264.111, 264.112(a)(3), and 264.114. The financial responsibility provisions ensure that funds will be available to carry out closure responsibilities, including those just mentioned. Contingency and emergency procedures are also needed to respond to short-term spills or fires, as are requirements for preparedness and prevention. The tracking requirements of the manifest system are needed if the whole regulatory system is to be enforceable and implementable (most state commenters were emphatic on this point; many industry commenters likewise favored use of a manifest). Transportation standards are chiefly designed to protect against risks from spills, and to ensure proper tracking, as are the Part 262 generator standards. We consequently cannot justify tailored regulations for these types of operations.

C. Summary

Tables 9 and 10 compare the various provisions of the current, proposed, and final regulations. Table 11 provides a flow chart which identifies the various requirements for the different recycling activities and materials.

[23] Absence of documentation not only would make it difficult or impossible for a respondent to carry its burden of proof, but also would itself be evidence that the claimed recycling is a sham. See Section II.H.1.c. above

tailored regulations can or should be developed for hazardous scrap metal.

The Agency expects to determine from this investigation which types of scrap metal are hazardous, whether the regulation of transportation and storage is necessary, and what an appropriate regulatory regime might be for those types of scrap metal that are hazardous. Since we do not yet have answers to these questions, we are deferring regulation.

We are not deferring regulation of non-scrap metal-bearing hazardous wastes that are reclaimed. The Agency already has made a determination that these wastes are hazardous, that regulation is necessary to protect human health and the environment, and what appropriate regulatory standards should be. Thus, such metal-bearing wastes as spent batteries, spent mercury, and spent acids and caustics are subject to § 261.6 (or Part 266) regulatory standards under today's rule.

H. Section 261.6(b) and (c): Requirements for Generators, Transporters, and Storage Facilities

1. *The Generally Applicable Standards.* These provisions state that persons generating, transporting, or storing recyclable materials, who are not explicitly addressed in § 261.6(a), are subject to all of the applicable requirements of Parts 262, 263, 264 and 265 of the regulations, as well as to applicable permit requirements. Thus, hazardous wastes that are to be reclaimed are covered by these provisions. Hazardous wastes that are accumulated speculatively also are covered.[42] As noted, these provisions will apply to most of the activities that would have been conditionally exempt under the proposal, as well as to situations (such as reclamation by an independent reclaimer selling reclaimed products to the general public) that we already proposed to regulate fully.

The following chart compares the extent of coverage under the May 19, 1980 regulations (40 CFR 261.6(b)) with today's final regulation for those recyclable materials not regulated under the special standards in Part 266—namely recyclable materials being reclaimed or accumulated speculatively. For wastes being reclaimed, the principal extension of regulation is to spent materials exhibiting a characteristic of hazardous waste. Sludges that are not listed as hazardous wastes, however, are no longer regulated when reclaimed. In addition, unlisted by-products and spent materials are now subject to regulation when accumulated speculatively (*i.e.* without sufficient amounts being shown to be recycled). Commercial chemical products listed in 40 CFR § 261.33 are not subject to regulation when recycled in any of these ways.

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[42] As we noted in the April 4 preamble, persons who overaccumulate wastes are subject to regulation as storage facilities when a year elapses without sufficient turnover of material. (However, as noted in the rule, and in Section II.F.3.b. of Part 2 of the preamble, materials that are stored in a unit covered by § 261.4(c) are not covered by the overaccumulation provisions.) These persons have a six-month period to come into compliance with applicable storage requirements or to ship all accumulated hazardous wastes to a Subtitle C facility. 48 FR 14489/2–3. Persons accumulating hazardous wastes speculatively are subject to immediate regulation as generators (if they generate the wastes) or as storage facilities (if they store another person's wastes, if they store their own wastes in piles or in impoundments, or if they store their own wastes in tanks and containers for longer than 90 days or for less than 90 days without complying with the provisions of § 262.34).